Claims:

1. A plasmid-free clone of Escherichia coli strain DSM 6601.

2. The method of preparing a plasmid-free clone according to Claim 1, characterized by the following steps:

a) The introduction of a resistance gene into plasmids pMut1 and pMut2,

b) The introduction of the *sacB* gene into the plasmids obtained in step a),

c) The introduction of the plasmids obtained in step b) into the E. coli strain DSM 6601 and cultivation of the strain under conditions in which the naturally occurring plasmids pMut1 and pMut2 are displaced by the plasmids obtained in step b); and

d) Cultivation of the clones obtained in step c) that substantially only permit the growth of bacteria that lack the *sacB* gene.

3. The method according to Claim 2, characterized in that the resistance genes are present in an expression cassette.

4. The method according to Claim 2 or 3, characterized in that the resistance genes are selected under tetracycline resistance or kanamycin resistance.

5. The method according to one of Claims 2 to 4, characterized in that plasmid pMut1 is marked with a tetracycline resistance cassette and the *sacB*

gene and that the original plasmid pMut2 is marked with a kanamycin resistance cassette and the *sacB* gene.

6. The method according to one of Claims 2 to 5, in which the bacteria transformed with plasmid pMut1, that is marked with a tetracycline resistance cassette and the *sacB* gene, are cultivated on plates containing tetracycline and subsequently on plates containing saccharose, and that after the elimination of plasmid pMut1 in the first step the elimination of plasmid pMut2 takes place by cultivation on kanamycin plates and further cultivation on saccharose plates.

7. The use of the plasmid-free clones according to Claim 1 as cloning strains.

8. The use of the plasmid-free clones according to Claim 1 for producing a means for treating gastrointestinal problems in animals.